

ABSTRACT OF THE DISCLOSURE

A shunt has a housing and a base. The base has a first set of electrodes extending across the base. A catheter is connected to the housing. The catheter has a longitudinal length, a proximal end, and a distal end. The catheter has a second set of electrodes extending along the longitudinal length of the catheter. At least two of the electrodes of said first set are electrically connected to two of the electrodes of the second set. The housing including a self sealing, needle penetrable outer housing wall. The system includes a probe assembly that is selectively penetratable through an outer housing wall.

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